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| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/758,007 | ZON ET AL. | |
| | Examiner | Art Unit | |
| | Q. Janice Li | 1632 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/12/05.
2. ☒ The allowed claim(s) is/are 18-29.
3. ☒ The drawings filed on 05 March 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date <u>11/15/04, 2/11/05</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|--|


Q. JANICE LI, M.D.
PRIMARY EXAMINER

DETAILED ACTION

This action is in response to amendment and response filed January 12, 2005. Claims 1-17 have been cancelled. Claim 18 has been amended. All of the amendments have been thoroughly reviewed and entered. The previous rejections in the Office action are withdrawn in view of the amendment and response.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Leena Karttunen on March 24, 2005.

The claims have been amended as follows:

18. (currently amended) A method of identifying a fish with a gene mutation involved in carcinogenesis comprising the steps of:

- (a) exposing a fish to a mutagen;
- (b) mating said fish from step (a) with a wild-type fish to produce an F1 generation;

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- (c) exposing haploid eggs derived from a female fish of said F 1 generation ~~female fish of step (b)~~ to inactivated fish sperm to create haploid embryos; and
- (d) screening said haploid embryos for cell proliferation defects wherein an embryo with cell proliferation defects is determined to harbor a gene mutation involved in cell proliferation;
- (e) mating an F1 generation female ~~of step (c)~~ harboring the gene mutation involved in cell proliferation as determined in step (d) with a wild-type fish to produce an F2 generation;
- (f) exposing a wild-type fish and a member of the F2 generation to a carcinogen; and
- (g) comparing the tumor formation in the wild-type and the member of the F2 generation fish wherein an accelerated tumor formation in the F2 generation fish identifies the fish with the gene mutation that is involved in carcinogenesis.

20. (currently amended) A method of identifying a fish gene involved in carcinogenesis, wherein the method comprises the step of:

- (a). Providing a F2 generation fish with a gene mutation as identified in step (g) of claim 18;
- (b). isolating the mutant gene involved in carcinogenesis by positional cloning.

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~~(ORIGINAL) The method of claim 18, further comprising a step of positional cloning of the gene involved in carcinogenesis.~~

The specification has been amended as following:

In page 6, line 17, "7(A)-(L)" was inserted in place of "7(A)-(C)".

In page 6, line 23, "8(A)-(C)" was inserted in place of "7(A)-(B)".

Conclusion

Claims 18-29 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Q. Janice Li** whose telephone number is 571-272-0730. The examiner can normally be reached on 9:30 am - 7 p.m., Monday through Friday, except every other Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Ram R. Shukla** can be reached on 571-272-0735. The fax numbers for the organization where this application or proceeding is assigned are **571-273-8300**.

Any inquiry of formal matters can be directed to the patent analyst, **Dianiece Jacobs**, whose telephone number is (571) 272-0532.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR)

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can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.



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Art Unit 1632

QJL
March 24, 2005